DOCUMENT RESUME

ED 156 079 HE 010 219

AUTHOR Kroll, Bonnie L.
TITLE The Recent Graduates of the University of California, Davis. Research Report No. 8.
INSTITUTION California Univ., Davis.
PUB DATE Jun 78
NOTE 44p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *College Graduates; *Educational Assessment; Educational Benefits; Employment; *Graduate Surveys; Higher Education; Institutional Research; *Job Satisfaction; Professional Continuing Education; Questionnaires; Research Projects; *Salaries; *School Surveys; State Universities; Statistical Data
IDENTIFIERS *University of California Davis

ABSTRACT

Results of a 1977 survey at the University of California, Davis of 2,518 baccalaureate degree recipients of 1973 and 1976 are presented. Information is provided on occupations, salaries, job satisfaction, continuing education of graduates and their reflections on the personal and occupational value of their college studies. The appendices contain the questionnaire used in the survey, an examination of the possibility of bias in the survey returns, the number of respondents and number of graduates by undergraduate major, respondent characteristics, degrees and credentials in progress and attained, the incidence of graduate/professional and post- baccalaureate, technical study among 1973 graduates by undergraduate field of study, starting salaries of graduates with bachelors degrees in the most frequent professional, technical, or managerial occupation by undergraduate major, mean starting salaries in first full-time job by major and level of education, and mean annual starting salaries of 1976 graduates with bachelors degrees. (SPG)

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THE RECENT GRADUATES
of the
UNIVERSITY OF CALIFORNIA, DAVIS

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Research Report No. 8
Office for Student Affairs
Research and Evaluation
University of California, Davis

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THE RECENT GRADUATES
OF THE
UNIVERSITY OF CALIFORNIA, DAVIS

Bonnie L. Kroll

Research Report No. 8
Office for Student Affairs
Research and Evaluation
University of California, Davis

June, 1978

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The educational and career progress of college graduates has been a matter of increased concern in the wake of the job crisis of the late 1960's and 1970's. Job scarcity for graduates during that period made it apparent that a college degree was no longer a guarantee of a good job. In response to the concerns raised at that time, there have been increased efforts to advise college students about the career possibilities and availability of jobs in their field of interest. This report, which is a part of the career advising efforts on this campus, describes the career experiences of two years of recent UCD graduates. Along with information on occupations, salaries, and job satisfaction, the report describes the continuing educations of graduates and their reflections on the personal and occupational value of their college studies.

The transition from college to work or to graduate school is assisted by a number of advising and placement services offered at UCD. For the majority of students who seek employment immediately after graduation, placement assistance is available from faculty and placement counselors. For those continuing to graduate or professional school, advising on choice of school and methods of application is offered. For both groups of students, work experience during college is available to help explore career alternatives while there is still time to change the course of study. In spite of these efforts, life after college often remains a mystery until well into a student's senior year. It is not unusual for students to ask advisors what they can do with a nearly completed major. Even individuals with the foresight to contact advisors early in their college studies usually ask: "If I major in _____, what can I do with it?" Due to the natural lack of knowledge about the job market, the inquiry proceeds from the preparation to the career, not from career choice to appropriate preparation.

As one means of informing students about the working world, this report uses data gathered in a 1977 survey of the baccalaureate degree recipients of 1973 and 1976.[1] The following narrative is divided into six main sections including: 1) highlights of the study, 2) post-baccalaureate education, 3) initial full-time employment, 4) career progress over time, 5) current activities of alumni, and 6) subjective reactions to college. Readers who are interested in the details of survey methodology, including questions of the representativeness of the sample, should turn to Appendices A and B. Appendix A contains the questionnaire[2] used in the survey, and Appendix B examines the possibility of bias in the survey returns. Analysis of the 2,518 survey returns showed that there was no evidence of bias due to unemployment or student status (i.e., whether alumni were still in graduate school). Although it is reassuring that evidence of bias could not be found, the return rate of 48% was not high enough to insure the representativeness of the sample, and caution should be used in generalizing findings to the whole graduating class.

Survey Respondents and Their Undergraduate Fields of Study. Drawing from Appendix D, which shows respondents' characteristics in detail, a picture of the typical (most frequently encountered) alumnus in the sample can be assembled. The typical 1973 graduate, who was four years out of college at the time of the survey, was 26-27 years old, had a bachelor's degree, and was working full-time in a professional, technical, or managerial job. He/she (either sex was equally likely) had an average income of over $13,000. The characteristics of the typical graduate of 1976, who was one year out of college at the time of the survey, were quite similar except for age (most were 23-24 years old) and annual income (over $9,000). Graduates of 1976 were less likely to be married: 21% were married as opposed to 49% for 1973 graduates.

For purposes of analysis, the undergraduate majors of respondents were divided into ten categories of related majors, referred to as fields of study. For instance, the field of study "Animal Science" is made up of the majors Agricultural Science and Management, Animal Science, Avian Sciences, and Wildlife and Fisheries Biology. Appendix C shows the academic majors that comprize each field of study and the number of respondents in each major. The fields of study and number of respondents in each field are: Social Science (749); Biological Science (529); Humanities (307); Engineering (211); Food Science, Nutrition, and Consumer Science (211); Animal Science (144); Resource Science (119); Physical Science and Math (94); Plant Science (88); Applied Economics (52); and Miscellaneous (14).

Highlights of the Study

EMPLOYMENT

Initial full-time jobs after college. Most graduates (84%) found their first jobs in California, and three-quarters of those worked within 150 miles of U.C. Davis. Approximately two-thirds of first jobs were in professional, technical, or managerial occupations. The remaining third were mostly in non-professional sales or clerical occupations. Some initial jobs were interim positions between college and graduate school. The average starting salary of 1973 and 1976 graduates was $9,346 for graduates with bachelor's degrees and $11,748 for those who had finished an advanced degree (usually a master's or teaching credential). Graduates with advanced degrees reported higher job satisfaction and greater incidence of finding work in their field of choice than graduates without advanced degrees.

Career progress. Comparison of initial and current jobs of 1973 graduates showed large increases in income and job satisfaction. The average 1977 income of 1973 graduates was $13,028. Seventy-five percent of 1973 graduates said their jobs were in the field of their choice, and two-thirds gave their jobs high satisfaction ratings. The improvement in salary and job satisfaction was partially due to movement out of non-professional jobs and into management and teaching. Eighty-four percent of 1973 graduates who were working full-time held professional, technical, or managerial positions.

UNEMPLOYMENT

One year after graduation. Five percent of 1976 graduates were unemployed and looking for full-time work. Another 3% had part-time jobs but wanted full-time work.

Four years after graduation. Very few (2%) of the 1973 graduates were unemployed and looking for full-time work. Another 2% were employed part-time and wanted full-time employment.

SCHOOLING

Graduate coursework. Sixty percent of 1973 graduates and 36% of 1976 graduates have taken graduate level courses since receiving their baccalaureate.

Degree enrollment. Four years after graduation, 35% of 1973 graduates held an advanced degree and 27% were seeking one. Taking into account the overlap in these figures (some people were working on their second graduate degree), 58% of 1973 graduates have undertaken an advanced degree in the four years since graduation. As an estimate of graduates' propensity to continue their education, this figure is a conservative one, since it does not include individuals who discontinued their graduate studies before completing a degree.

One year after graduation, 34% of 1976 graduates were degree-enrolled in a graduate or professional school, and 6% were degree-enrolled in training programs of a technical nature. Thus, 40% of 1976 alumni were still in school a year after receiving their baccalaureate, and 85% of those were in graduate or professional training.

REACTIONS TO COLLEGE

Most graduates felt that their college years had been of great benefit in broadening their interests and providing a good environment and stimulus for personal and intellectual growth. Many reported that their degrees enabled them to get good jobs or further education in their field of interest. Skills that graduates wished they had developed more thoroughly included practical and marketable skills in their field of interest, writing/speaking skills, and skills in business management. The major problem reported was that at the time of graduation, respondents had little awareness of the job market. Many people reported being unaware of the career consequences of their choice of academic majors and of the availability of jobs in their field of interest.

Post-baccalaureate Education

What percent of UCD graduates go on to graduate school? How many degree-enroll, and how many simply take coursework? What schools do they go to, and what degrees do they seek? In estimating answers to these questions, the degrees in progress and degrees attained of the 1976 and 1973 graduating classes were examined. If the behavior of these classes can be generalized to other years, about a third of graduates undertake graduate coursework within a year of college, and within four years this percentage almost doubles. Thirty-six percent of 1976 graduates and 60% of 1973 graduates had taken some graduate level courses at the time of the survey. Not all of these people were enrolled for degrees however.

The difference between graduate/professional school attendance and degree-enrollment is negligible for both years, showing a high degree of persistance to the completion of degrees. Sixty percent of 1973 graduates have taken graduate work, and 58% have either achieved a degree or are presently degree-enrolled. The difference, 2% of the class, have taken graduate coursework at some point but were either never degree-enrolled or did not remain so. Among 1976 graduates, 36% have taken graduate coursework and the same proportion are degree-enrolled or already have a degree. The actual degrees attained and degrees in progress of both classes are shown in Appendix E.

A few graduates chose to supplement their bachelor's degrees with technical/vocational schooling. Overall, 10% of respondents of both years have earned or are pursuing degrees in such fields as vocational nursing, law enforcement, medical technology, or real estate. This percentage refers to alumni who have undertaken ONLY technical or vocational training. It does not include people who have taken both graduate/professional and technical training.

Alumni who continue their studies most often do so at campuses within the University of California system, and of those campuses, Davis is the most frequent choice. Table 1 shows that 43% of those continuing their studies enrolled at some campus of the University of California and that 29% chose Davis. Out-of-state schools were next in frequency, followed by California private schools and schools in the state college system. Of course this breakdown reflects a complicated set of choice factors, such as where certain degrees are available and where people are accepted into graduate school. It should not be viewed simply as a popularity indicator, although preference is certainly a factor in choice of schools.

Table 1

SCHOOLS ATTENDED
FOR FIRST POST-BACCALAUREATE DEGREE
(In percent: n=1274)

SCHOOL	PERCENT OF GRADUATES
University of California	45
U.C.-Davis (UCD)	- 29
U.C.-Berkeley (UCB)	- 5
U.C.-San Francisco (UCSF)	- 4
U.C.-Los Angeles (UCLA)	- 3
Hastings College of Law[1]	- 2
U.C.-Irvine (UCI)	- *[2]
U.C.-Riverside (UCR)	- *
U.C.-San Diego (UCSD)	- *
U.C.-Santa Barbara (UCSB)	- *
California Private Schools[3]	19
Out-of-State Schools[4]	20
California State University (CSU)[5]	14
Other	3

[1]A University of California-affiliate

[2]The asterisk indicates an amount that is less than one-half of a percent.

[3]Graduates attended 50 different California private schools. The most frequently named and the number of alumni who indicated each school were: McGeorge Law School (25), Stanford (18), U of Southern California (18), and U of Santa Clara (20).

[4]There were 105 out-of-state schools named, most frequently: U of Michigan (14), U of Washington (14), Case Western Reserve U, Ohio (12), U of Oregon (8), U of Arizona (7), Harvard (6), Northwestern U (6), and U of Colorado (6).

[5]The most frequent CSU campuses were: Sacramento (71), San Jose (26), San Francisco (20), San Diego (16), Fresno (12), Hayward (9), and Chico (7).

Table 2 shows what kinds of degrees alumni pursued at the various U.C., state college, and private campuses. The table refers to the first post-baccalaureate degree of respondents, combining currently enrolled students working on their first graduate degrees with those who have already completed their first degrees. The most common degrees sought were academic masters, teaching credentials, law, and professional masters (e.g., MPH, MLS, Pharm D, MPA). The proportion of masters students in Table 2 may be erroneously high, since it is possible that some respondents gave a masters as their degree objective when in fact they had plans to continue for a doctorate.

Graduates seeking teaching credentials most frequently stayed at UCD or went to a state college. Academic doctoral candidates most frequently enrolled in out-of-state schools, and prospective lawyers most often attended private schools in California. Among those pursuing graduate study at UCD, the degrees sought were teaching credentials (39%), academic masters (37%), DVM's (11%), MD's (4%), academic doctorates (3%), and JD's (3%).

Men were more likely than women to enroll in graduate or technical training and, given such enrollment, to seek the more advanced or prestigious degrees. Forty-nine percent of men had either attained or were seeking a credential or degree, but this was true of only 42% of women. (This was in spite of the fact that in two male-dominated fields, Engineering and

Applied Economics, very few undertook graduate training.) Men outnumbered women two to one in seeking the more advanced degrees: JD, MD, DVM, and academic doctorates. The greatest imbalance was in dentistry -- three women versus 13 men had attained or were attempting a DDS; the least imbalance was in the pursuit of academic doctorates -- 18 women versus 26 men. (There was an equal number of men and women respondents.)

Table 2

FIRST POST-BACCALAUREATE DEGREES AND CREDENTIALS AND WHERE THEY WERE UNDERTAKEN

(In percent of respondents seeking each kind of degree or credential)

KIND OF DEGREE OR CREDENTIAL	SCHOOL													Total (n=1274)
	Jr. Col.	University of California								CSU	Ca. Pri	Out of State	OTHER	
		UCD	UCB	UCI	UCLA	UCR	UCSD	UCSF	UCSB					
Acad Masters	-	39	4	-	3	1	-	-	1	19	11	24	-	31
Teach Cred	-	50	4	-	1	-	-	1	-	29	8	6	-	25
Prof Masters[1]	-	4	17	-	7	-	-	6	-	26	20	19	-	8
Health:														
Technicians	24	-	-	-	-	-	-	7	-	3	62	3	-	2
Misc. Practitioners[2]	4	-	7	-	12	-	-	15	-	6	22	23	10[3]	6
MD	-	27	4	6	6	-	3	12	-	-	10	32	-	5
DVM	-	96	-	-	-	-	-	-	-	-	-	4	-	4
Law (JD)	-	12	3	-	3	-	-	5	-	1	43	9	24[4]	7
Acad Doctorates	-	25	11	2	-	4	4	6	-	2	9	38	-	4
Misc. Undergrad	29	3	3	-	-	-	-	11	-	18	18	18	-	2
Misc. Finance[5]	19	-	6	-	-	-	-	-	-	13	50	13	-	1
Miscellaneous[6]	-	5	3	-	-	-	-	-	-	5	59	28	-	3

[1]MLS, MBA, MPA, Pharm D, MPH.

[2]Optometry, nursing, dentistry, dietetics.

[3]Hospital training programs.

[4]Hastings College of Law, a U.C. affiliate.

[5]CPA, real estate, insurance underwriting

[6]Eg., Building contractor's license, law enforcement credential

The incidence of graduate training for each undergraduate field of study of 1973 graduates is shown in Appendix F. At the time of this survey, these alumni had had four years since graduation in which to undertake graduate work. In general, Biological and Physical Science graduates were most likely to go on to graduate/professional school, and graduates of Food Science and Applied Economics were least likely. These figures do not necessarily reflect long-run tendencies toward advanced studies. This is because, statistically speaking, students in some fields of study such as Chemistry and other natural sciences are more likely to enroll in graduate study soon after college and to complete their degrees rapidly. Degrees in other fields, like English and Economics, are often begun later and completed more slowly.

Initial Full-Time Employment

Although initial jobs are not necessarily indicative of eventual career directions, they are often important for the formation of career interests and acquisition of work skills. Some first jobs may be exploratory, as in the case of people without firm career goals, and some may be stop-gap and temporary in nature, taken merely to earn money until a more desirable position is found. The length of time a job is held is often related to its career importance, both because the experience acquired over time is valuable and because a lengthy term of employment in one field may actually restrict employment opportunities in other fields. The length of time that graduates have been employed in the jobs depicted on the following pages varied considerably. About half the 1973 graduates were still in their first jobs at the time of the survey, and they had held those jobs, on the average, for two-and-one-half years. But the other half of the 1973 graduates, and of course the 1976 graduates, had held their first jobs for much shorter periods of time. Because of these variable lengths of employment, the first jobs of graduates should be viewed as a mixture of casual and career positions. Information on early career changes presented in later sections can be used to round out the information shown here on graduates' initial jobs.

The process of getting the first job. Most UCD graduates who did not go on to graduate school obtained their first full-time job in less than six months after graduation. Fourteen percent of respondents reported obtaining their job before graduation, 59% in 0-5 months, and 13% in 6-11 months. Fifteen percent took a year or longer to get their first full-time job. (We did not inquire whether these people had part-time jobs before that time, or whether they sought employment immediately after graduation.)

Initial jobs were most often found by either direct application (34%) or by word-of-mouth (21%). Other methods used were the job listings or on-campus interviews at the UCD placement center (11%), UCD faculty (6%), the placement office or faculty of a graduate school (11%), want ads (7%), or government employment services (6%). Only 4% used a private employment agency.

The occupations of those most likely to have used UCD placement services to find their jobs were engineer; computer programmer; teacher; food scientist; or administrative/managerial specialist in commercial trade, manufacturing, or a public agency. Almost half the people employed as engineers said they had found their first jobs through the placement center, as did a quarter of those working in retail trade administration. UCD faculty members were most helpful to people working in the sciences: roughly a quarter of people working as animal, food/nutrition, physical, or plant scientists said they found their position through a UCD faculty member. These figures on the use of faculty and placement services probably understate somewhat the contribution each makes to the job search process. For example, the placement center provides many services which facilitate the direct application process, the most frequent reported means of landing the first job.

Most graduates (84%) found their first jobs in California; of these, 76% were in the Sacramento - San Francisco Bay[3] area. Eight percent of first jobs in California were in the Los Angeles area, and the remainder were evenly scattered around the state.

Occupations. Table 3 shows the initial full-time jobs of graduates from the ten undergraduate fields of study (graduates of 1973 and 1976 combined). Individual occupations have been summarized into 30 categories, including 24 professional, technical, and managerial categories (hereafter referred to simply as professional occupations) and six non-professional categories. The 24 professional categories include jobs in:

1) the sciences (e.g., biologists, computer programmers),
2) management or administration (e.g., administrative specialists in social welfare, store managers, or agricultural managers),
3) miscellaneous professional jobs (e.g., teaching, health, public safety, the arts).

The six non-professional categories include such occupations as clerical work, farming, and sales. Overall, 68% of initial jobs were in professional occupations and 32% were in non-professional occupations.

The degree of concentration in different occupational groupings varied with the field of study. The graduates of some fields, like Engineering, went almost exclusively into a single occupation. In other fields, e.g., Social Science, graduates took jobs in a wide variety of occupations. (Appendix G shows the most frequent professional occupation and the corresponding starting salary for those undergraduate majors which had a sufficient number of respondents for analysis.) To summarize the findings on the initial full-time jobs of graduates of the ten fields of study:

- Physical Science, Engineering, and Resource Science graduates were concentrated in professional/technical jobs in the sciences, mostly as engineers, computer programmers, physical scientists, resource planners or soil scientists.
- Most Applied Economics graduates became financial or agricultural administrators, analysts, or managers.
- Graduates who majored in Plant Science and Food, Nutrition, and Consumer Science were somewhat less concentrated than the above categories. Food Science graduates worked mainly in health (27%), food science (29%), or administrative specialties (11%). Plant Scientists worked mainly in the sciences (40%), or as farmers (28%).

The other four undergraduate fields of study--Animal Science, Biological Science, Humanities and Social Science--showed more occupational diversity than any of the above fields.

- Three-fourths of Biological Science graduates were in a wide variety of professional or technical jobs, most notably in biological science (18%) or animal and human health (25%).
- Animal Science graduates were employed mainly as animal scientists (21%), farmers (18%), or administrators (11%).
- Humanities majors were in a wide variety of jobs, with clerical work (26%), teaching (16%), sales (11%), and administration (11%) being the most common.
- Social Science graduates worked mainly in administrative specialties (28%), clerical work (20%), or teaching (14%).

Starting Salaries. Mean annual starting salaries for males and females in 30 occupational groupings are shown in Table 4. These figures combine 1976 and 1973 graduates. The overall mean salary was $9,611, with males making on the average almost $3,000 more than females ($11,064 versus $8,184). The size of the differential between sexes is due to females predominating in the lower paid occupations. Even within most occupational groupings, however,

Table 3

OCCUPATION IN FIRST FULL-TIME JOB
BY UNDERGRADUATE FIELD OF STUDY

(In percent of each field of study)

OCCUPATIONAL GROUPING	UNDERGRADUATE FIELD OF STUDY										TOTAL[2]
	An Sci	Ap Econ	Bio Sci	Engr	Food Sci	Human	Phys Sci	Plant Sci	Resource Sci	Soc Sci	
	n=96	n=43	n=318	n=175	n=158	n=197	n=68	n=64	n=94	n=553	n=1774
PROFESSIONAL, TECHNICAL & MANAGERIAL											68
Sciences											-29
Animal Science	21	-	2	-	-	-	-	-	-	*	- 2
Biological Science	6	-	18	-	2	-	-	3	2	*	- 4
Computers/Math	-	2	-	1	-	1	18	2	1	*	- 1
Engineering	-	-	-	89	-	3	9	-	5	1	-10
Food, Nutrition, & Con Sci	-	-	3	-	29	1	1	-	1	1	- 3
Physical Science	-	-	4	-	2	-	28	2	3	-	- 2
Plant Science	1	-	3	-	-	-	1	30	6	*	- 2
Resource Science	4	-	1	-	-	1	1	3	35	1	- 3
Social Science	-	5	-	-	-	1	-	-	-	2	- 1
Management & Administration											-16
Agriculture	6	14	-	1	-	-	-	6	5	1	- 2
Commercial Trade	-	7	1	1	6	3	4	3	1	3	- 3
Finance	1	30	1	1	1	2	4	3	1	8	- 4
Manufacturing	2	5	2	2	1	1	-	-	-	1	- 1
Public Administration	-	-	-	-	-	-	1	-	1	2	- 1
Social Welfare	1	-	-	-	1	1	-	-	1	8	- 3
Other Admin	1	2	2	-	2	4	-	-	3	5	- 3
Miscellaneous											-24
Arts/Entertainment	1	-	1	-	1	7	-	-	-	1	- 1
Education	5	2	9	1	5	16	12	3	5	14	- 9
Health: Animal	5	-	7	-	-	-	-	-	-	*	- 2
Health: Human	2	-	18	-	27	1	-	-	1	4	- 7
Law	-	-	1	-	-	1	1	-	-	4	- 2
Library/Museum/Writing	-	-	1	-	-	6	-	-	-	1	- 1
Public Safety	1	-	2	1	1	1	1	-	1	2	- 2
Other Prof-Tech-Managerial	-	-	-	-	-	-	1	-	-	1	- *
OTHER											32
Clerical	5	7	8	-	6	26	6	3	5	20	-12
Farming	18	9	2	-	1	1	-	28	7	1	- 3
Sales	6	9	5	1	7	11	3	6	5	6	- 6
Services/Processing	7	7	7	2	9	9	1	5	4	8	- 7
Trades	5	-	3	1	-	5	4	3	3	3	- 3
Miscellaneous	-	-	1	-	-	-	-	-	-	1	- *

[1]Some columns do not total to 100% because of rounding errors.

[2]A small misc. field of study was omitted from the breakdown but included in the total.

[3]An asterisk indicates an amount less than one-half of one percent.

females earned lower salaries than males. Note that we have no evidence as to whether male graduates were being paid more than females for the SAME JOBS. Each occupational grouping contains a number of different jobs, and because job titles are not consistent between employers, even detailed analysis of these data cannot address this question.

Table 4

MEAN ANNUAL SALARY ON FIRST FULL-TIME JOB
BY OCCUPATION

MALES AND FEMALES

OCCUPATION	MEAN ANNUAL SALARY					
	Females		Males		Overall	
	Mean	*n*	*Mean*	*n*	*Mean*	*n*
PROFESSIONAL, TECHNICAL & MANAGERIAL						
Sciences						
Animal Science	$8,980	*10*	$7,988	*17*	$8,356	*27*
Biological Science	8,766	*38*	8,926	*31*	8,838	*69*
Computers/Math	10,210	*10*	10,833	*6*	10,444	*16*
Engineering	13,286	*14*	15,041	*157*	14,897	*171*
Food Science	10,523	*30*	12,624	*29*	11,556	*59*
Physical Science	9,929	*7*	10,516	*32*	10,410	*39*
Plant Science	8,285	*20*	8,516	*19*	8,397	*39*
Resource Science	8,375	*12*	10,203	*34*	9,726	*46*
Social Science	9,300	*4*	9,825	*12*	9,694	*16*
Management & Administration						
Agriculture	9,140	*5*	12,896	*24*	12,248	*29*
Commercial Trade	8,561	*23*	13,032	*22*	10,747	*45*
Finance	9,989	*27*	11,705	*44*	11,052	*71*
Manufacturing	14,000	*10*	14,825	*12*	14,450	*22*
Public Administration	7,250	*2*	12,089	*9*	11,209	*11*
Social Welfare	8,937	*38*	6,625	*12*	8,382	*50*
Other Administration	9,197	*31*	13,700	*15*	10,665	*46*
Other						
Arts/Entertainment	7,471	*14*	6,963	*8*	7,286	*22*
Education	8,775	*116*	9,166	*44*	8,883	*160*
Health: Animal	8,083	*12*	14,844	*16*	11,946	*28*
Health: Human	8,415	*87*	8,741	*32*	8,503	*119*
Law	10,827	*11*	13,793	*15*	12,538	*26*
Library/Museum	7,913	*16*	6,180	*5*	7,500	*21*
Public Safety	--	*0*	11,400	*25*	11,400	*25*
Miscellaneous	4,100	*2*	5,825	*4*	5,250	*6*
OTHER						
Clerical	6,870	*179*	7,269	*35*	6,935	*214*
Farming	8,189	*19*	8,244	*34*	8,225	*53*
Sales	5,896	*54*	10,119	*42*	7,744	*96*
Services/Processing	6,160	*47*	8,438	*60*	7,437	*107*
Trades	5,788	*8*	10,478	*32*	9,540	*40*
Miscellaneous	2,150	*2*	6,900	*6*	5,713	*8*
TOTALS	$8,184	*848*	$11,064	*833*	$9,611	*1,681*

Fourteen percent of respondents who accepted a full-time job after graduation earned a graduate degree before taking their first job. Average starting salaries were higher for people with advanced degrees than for those without ($11,748 versus $9,346). Almost all advanced degrees were either masters or teaching credentials. Appendix H shows starting salaries for 48 undergraduate majors broken down by whether an advanced degree was earned before the first full-time job; Appendix I shows starting salaries of 1976 graduates in 20 occupational groupings, excluding graduates who had earned an advanced degree before their first job.

Mean starting salaries varied considerably by field of study. Engineering, Applied Economics, and Physical Science graduates earned the top starting salaries of $15,000, $10,900, and $10,700 respectively (rounded figures). Following these were Resource Science ($9,600), Animal Science ($9,400), Biological Science ($9,300), Plant Science ($8,800), Social Science ($8,700) and Humanities ($7,800). Table 5 shows the salary differences between graduates in each field of study who did and did not possess advanced degrees.

Table 5

MEAN STARTING SALARY ON FIRST FULL-TIME JOB
BY FIELD OF STUDY AND LEVEL OF EDUCATION

FIELD OF STUDY	LEVEL OF EDUCATION					
	Baccalaureate		Advanced Degree		Total	
	m	*n*	*m*	*n*	*m*	*n*
Animal Science	$ 9,230	83	$13,320	6	$ 9,356	89
Applied Economics	10,830	39	12,133	3	10,924	42
Biological Science	8,659	263	12,950	47	9,268	310
Engineering	15,059	152	15,706	18	15,035	170
Food, Nutri. & Cons. Sci.	9,126	122	11,671	24	9,305	146
Humanities	7,365	152	9,589	38	7,781	190
Plant Science	8,662	56	12,200	3	8,842	59
Physical Science	10,463	49	12,492	13	10,687	62
Resource Science	8,659	86	11,500	3	9,579	89
Social Science	8,365	443	11,417	77	8,718	520
TOTAL	$ 9,346	1,445	$11,748	232	$ 9,611	1,677

Job Satisfaction. Satisfaction with initial jobs varied greatly. Twenty-six percent of graduates gave their first full-time jobs the highest possible satisfaction rating, and 17% of respondents chose the very lowest satisfaction rating. The mean satisfaction rating was 3.2 on a scale from 1 (low) to 5 (high).

Respondents' explanations of their satisfaction ratings showed that a "3" rating meant either a neutral reaction, or a mixture of positive and negative reactions. For example: A 1976 Civil Engineering graduate who works as an engineer for a construction firm--

> *"As of now, I am not involved in the area of construction I want to be in. However, this job should provide the experience and possibly the opportunity to get where I want to be."*

A 1973 Psychology graduate who was a counselor for emotionally disturbed children--

"Working with the children was great and very rewarding, however, staff morale was particularly low....(we had) increasing duties without compensation."

A 1976 Zoology graduate whose first job was as an assistant in an animal hospital--

"This job is both satisfying and not satisfying. I enjoy working with the animals (i.e., assisting in surgery, doing dental work, lab work), but it is frustrating because I want to be able to do more. To achieve this, I must gain entrance to a school of veterinary medicine."

People who were satisfied with their jobs most often gave one of the following reasons:

1) the work was challenging, interesting, intrinsically rewarding, or required creativity, or

2) the work contributed to their career goals.

The three most frequent reasons given for disliking a job were:

1) the work was routine, unchallenging, required no creativity, or carried no responsibility;

2) there were undesirable aspects in the particular work situation, such as poor morale or poor management;

3) the work had no relationship to career goals or present field of interest.

Mean satisfaction ratings by field of study were clustered fairly tightly about the mean of 3.2, with the exception of two unusually high fields, Physical Science (3.7) and Engineering (3.6). Other ratings were: Resource Science, Applied Economics, and Food Science (3.3), Biological Science and Plant Science (3.1), Social Science and Animal Science (3.0), and Humanities (2.8).

Fifty-nine percent of graduates reported that their first job was in the field of their choice. Graduates obviously had fairly specific fields in mind in answering this question, because having a professional job in an area (apparently) related to their major was by no means a guarantee of an affirmative answer. Jobs in the sciences fared the best in this regard, with at least three-fourths of respondents employed in the various sciences saying their job was in the field of their choice. Jobs in administrative specialties received a more mixed response: only half the people in those positions said their jobs were in their field of choice. Teaching, law and farming were the preferred fields of most people holding those jobs, but clerical work, sales, and personal services/processing were not the preferred fields or over three-fourths the people who held those jobs.

Graduates of certain fields of study had greater success in finding initial full-time jobs in their field of choice. The most successful were: Engineering (88%); Physical Science (80%); Food, Nutrition and Consumer Science (79%); Plant Science (79%); and Applied Economics (74%). Following these were Resource Science (67%), Animal Science (56%), Biological Science (54%), Social Science (46%), and Humanities (40%). There was a strong tendency for graduates whose jobs were in the field of their choice to be more satisfied with their jobs.

Career Progress Over Time

Career advances can be estimated from comparisons of different graduating classes, or from comparative data on one class at different times. In this section we present both types of comparisons: one on the occupational status of 1973 and 1976 graduates, and one on the initial and current jobs of 1973 graduates. The 1973-1976 comparison provides a large sample suitable for detailed breakdowns. The one-class-over-time comparison of 1973 graduates, although limited by a smaller number of respondents, provides data not influenced by individual differences between classes.

Comparison of 1976 and 1973 graduates. Differences between the current full-time jobs of 1973 and 1976 graduates would be expected because of: 1) differences in the availability of jobs in 1973 and 1976, 2) individual differences between the two groups, 3) job advances, and 4) the attainment of advanced degrees by the older graduates. About 30% of the 1973 graduates have advanced degrees: 16% have teaching credentials, 15% have master's degrees, 2% have JD's. and 1% have DVM's. We have included graduates with advanced degrees in the following analyses of occupations and job satisfaction in order to present a picture of ALL graduates. Salary comparisons include only people who have not earned advanced degrees unless otherwise stated.

Occupations

Table 6 compares the current full-time occupations of 1973 and 1976 graduates from ten fields of study. Eighty-four percent of 1973 graduates have professional jobs compared to 72% for 1976 graduates. The difference is accountable mostly through gains in teaching jobs made possible by the teaching credentials completed by the 1973 graduates, and a fall in the number of non-professional jobs such as restaurant worker and secretary. (If the graduates who have completed an advanced degree are excluded, only 79% (1973) and 71% (1976) hold professional jobs.)

Salaries

Salary differences between the graduates of 1976 and 1973 who have not earned advanced degrees are shown in Table 7 (by occupation) and Table 8 (by field of study). There was a $3,460 difference between the mean salaries of the 1973 and 1976 graduates: $3,895 for males and $1,893 for females. Note in Table 7 that salaries in some occupations coded as non-professional exceed salaries in some professional categories.

Job Satisfaction

Three-quarters of the 1973 graduates who are currently employed full-time said their jobs were in the field of their choice, as opposed to 63% of the 1976 graduates. The acquisition of advanced degrees played a large part in the success of the older graduates in finding employment in their preferred fields: almost nine out of ten who have earned advanced degrees and are currently working full-time have jobs in their field of choice. Among 1973 graduates, the proportion of jobs in the graduates' field of choice was highest among engineers (95%). This was followed by Physical Science (94%), Food Science (87%), Resource Science (85%), Applied Economics (75%), Animal Science (73%), Social Science (71%), Biological Science (71%), Plant Science (65%), and Humanities (59%).

Table 6

COMPARISON OF CURRENT FULL-TIME OCCUPATIONS
OF 1976 AND 1973 GRADUATES BY FIELD OF STUDY

(In percent of field of study for each year)

FIELD OF STUDY	TYPE OF OCCUPATION													
	Professional, Technical, or Managerial								Non-professional					
	Engineering & Sciences		Administrative Specialities		Teaching		Other		Clerical		Sales		Other	
(n_{1976}, n_{1973})	1976	1973	1976	1973	1976	1973	1976	1973	1976	1973	1976	1973	1976	1973
Animal Science (45,37)	31	32	13	19	2	11	11	11	2	3	4	0	36	24
Applied Economics (23,16)	13	0	65	81	0	0	4	6	4	6	4	0	9	6
Biological Science (132,130)	35	22	8	9	3	16	29	40	8	4	8	3	8	5
Engineering (80,92)	93	88	4	8	0	1	1	1	0	0	0	1	3	0
Food Science (83,56)	34	48	16	16	1	9	33	18	5	2	10	0	2	7
Humanities (47,107)	2	6	13	23	15	29	25	18	15	12	17	3	13	9
Physical Science (58,51)	58	51	23	14	0	23	8	9	4	0	4	0	3	3
Plant Science (34,17)	29	29	12	35	3	6	3	6	0	0	6	0	48	23
Resource Science (46,34)	48	65	15	18	4	0	2	3	9	0	9	0	13	15
Social Science (170,283)	4	6	32	32	9	22	14	19	22	11	5	2	14	8
TOTAL (691,807)	32	27	18	22	5	17	17	18	10	6	7	2	12	9

Table 7

COMPARISON OF MEAN ANNUAL SALARIES OF
1976 AND 1973 GRADUATES IN CURRENT FULL-TIME JOBS
BY OCCUPATION

(Includes only graduates without advanced degrees)

OCCUPATION	SALARY			
	1976 GRADUATES		1973 GRADUATES	
	Mean	n	Mean	n
PROFESSIONAL, TECHNICAL & MANAGERIAL				
Sciences				
Animal Science	$ 8,511	9	$ 9,322	9
Biological Science	8,763	32	11,000	10
Computers/Math	9,513	8	15,200	4
Engineering	14,380	74	17,596	71
Food, Nutri, Cons. Science	11,396	28	13,832	25
Physical Science	11,065	17	12,647	15
Plant Science	8,913	16	10,043	7
Resource Science	9,844	18	12,461	18
Social Science	8,733	6	15,333	3
Management & Administration				
Agriculture	13,862	13	12,125	12
Commercial Trade	11,054	24	13,957	14
Finance	10,106	31	14,016	37
Manufacturing	15,944	9	14,767	18
Public Administration	------	0	17,100	9
Social Welfare	9,056	16	11,856	25
Other Administration	11,880	25	13,341	27
Other				
Arts/Entertainment	7,014	7	12,115	13
Education	5,388	26	8,814	14
Health: Animal	6,345	11	7,300	2
Health: Human	6,756	62	12,927	41
Law	8,667	6	10,778	9
Library/Museum/Writing	8,350	8	11,760	5
Public Safety	11,450	10	14,031	13
Miscellaneous	5,167	3	5,375	4
OTHER				
Clerical	7,328	65	9,026	39
Farming	7,841	27	9,631	16
Sales	9,259	29	14,017	18
Services/Processing	8,055	40	10,144	9
Trades	10,563	19	13,392	12
TOTALS	$ 9,568	643	$13,028	500

Table 8

COMPARISON OF MEAN SALARIES OF 1976 AND 1973 GRADUATES IN CURRENT FULL-TIME JOBS
BY FIELD OF STUDY

(Includes only graduates without advanced degrees)

FIELD OF STUDY	1976	1973	n_{1976}	n_{1973}	FIELD OF STUDY	1976	1973	n_{1976}	n_{1973}
An Sci	$9,349	$10,713	43	23	Ap Econ	$10,241	$14,071	22	14
Bio Sci	8,820	12,507	127	74	Engr	14,725	17,658	76	69
Food Sci	8,664	13,180	74	41	Human	7,466	10,835	41	60
Plant Sci	9,203	11,808	33	13	Phys Sci	11,091	13,205	22	19
Resource Sci	9,727	13,364	45	25	Soc Sci	8,430	12,330	158	162

Satisfaction scores followed a trend similar to field-of-choice statistics, with 1973 graduates being reliably more satisfied with their jobs than the younger graduates. The most frequent satisfaction rating was 5 for the older graduates and 4 for the recent graduates, where 5 was the highest possible score.

Career Progress of 1973 Graduates. Another way to look at career progress is to examine the difference between the initial and current full-time jobs of 1973 graduates. The comparison produces trends similar to those found in the previous section's comparison of graduates of 1976 and 1973:

1) There was a rise in the percentage of professional jobs. The percentage rose from 60% in first full-time jobs to 77% in current full-time jobs. Among people who held advanced degrees, the proportion of professional jobs was higher: 70% for initial jobs and 92% for current jobs. Table 9 shows the changes in occupations that have occurred for graduates who have, and have not, earned advanced degrees.

Table 9

COMPARISON OF INITIAL AND CURRENT OCCUPATIONS OF 1973 GRADUATES BY LEVEL OF EDUCATION

(In percent of 1973 graduates)

OCCUPATIONAL GROUPING	LEVEL OF EDUCATION								
	Baccalaureate (n=280)			Graduate Degree (n=109)			Total (n=389)		
	Initial Job (a)	Current Job (b)	Difference[1] (b-a)	Initial Job (a)	Current Job (b)	Difference[1] (b-a)	Initial Job (a)	Current Job (b)	Difference[1] (b-a)
Professional, Technical or Managerial:									
Engineering	9	7	- 2	5	5	0	8	7	- 1
Sciences	18	15	- 3	15	16	+ 1	17	15	- 2
Admin	18	33	+15	11	16	+ 5	16	28	+12
Teaching	3	3	0	27	40	+13	10	13	+ 3
Other	9	17	+ 8	12	16	+ 4	9	17	+ 8
Non-Professional:									
Clerical	21	10	-11	12	3	- 9	19	8	-11
Sales	8	6	- 2	8	2	- 6	8	5	- 3
Services	8	3	- 5	5	1	- 4	7	2	- 5
Other	5	7	+ 2	5	2	- 3	5	5	0

2) There was a 38% rise in income. The mean annual starting salaries of 1973 graduates was $7,741 in their initial jobs and $12,522 in current jobs. Some of this increase was attributable to the acquisition of advanced degrees. However, the current mean salary of those who do, and do not, hold advanced degrees was practically the same. This was probably because alumni who had not gone to graduate school had more seniority in their current jobs.

The percent rise in income was practically the same for both sexes. Women's salaries rose from an average of $6,960 to $11,191, a 38% increase; and men's salaries rose from $8,680 to $14,177, a 39% increase. In absolute amounts, men's salaries rose about $1,000 more than women's salaries.

Table 10

THE EFFECTS OF ADVANCED DEGREES ON FINDING EMPLOYMENT IN FIELD OF CHOICE
-INITIAL AND CURRENT FULL-TIME JOBS-
1973 GRADUATES

(In percent of 1973 graduates)

WAS JOB IN CAREER FIELD OF CHOICE?	GRADUATES WITHOUT ADVANCED DEGREES (*n=280*)		GRADUATES WITH ADVANCED DEGREES (*n=109*)	
	Initial Job	Current Job	Initial Job	Current Job
Yes	42	64	58	85
No	41	36	35	15
Had not chosen a career field	16	n/a	7	n/a

Current Activities

The majority of alumni were either working full-time or in school full-time at the time of this survey, with the older graduates less likely to be in school than the more recent graduates. Table 11 shows the current activities of both years of graduates. Twenty-nine percent of 1976 graduates were in school full-time, as opposed to 17% of 1973 graduates. A small proportion (7%) of the total sample were neither working nor in school, and another 10% were at school or work on only a part-time basis.

Table 11

CURRENT ACTIVITIES OF 1973 AND 1976 GRADUATES

(In percent of graduates from each year)

Year of Graduation	Full-Time School[1]	Full-Time Work[2]	F-T Work and F-T School	P-T Work and/or P-T School	Other: Neither Work nor School
1973 (*n=1173*)	17	66	2	8	7
1976 (*n=1345*)	29	46	5	11	8
Total (*n=2518*)	27	59	4	10	7

[1]Includes some people with part-time jobs. [2]Includes some people in school part-time.

3) There was a rise in the percentage of graduates employed in the field of their choice. Seventy percent of 1973 graduates who were currently working full-time had jobs in their field of choice. However, in initial jobs, only 47% of graduates were employed in the field of their choice. Table 10 shows that acquisition of advanced degrees played a large part in finding employment in the field of choice.

4) Satisfaction with current jobs was higher than with initial jobs. Mean ratings rose from 2.6 to 3.7 on a scale of 1 to 5. The graduates with advanced degrees were reliably more satisfied than those without. Mean ratings of advanced degree holders changed from 2.9 to 4.0 between the initial and current job; comparable figures for graduates without advanced degrees were 2.5 (initial job) and 3.6 (current job).

The majority (61%) of graduates who were not in school full-time or at work full-time said that work or school had been their main activity since graduation even though it was not at the time of the survey. Others said that job hunting (16%) or homemaking (13%) had been their main activities. Two-thirds of graduates who were not employed full-time or in school full-time did NOT want full-time employment, usually because of part-time employment and/or school(1976 graduates), or home/family responsibilities (1973 graduates).

Unemployment. Five percent of 1976 graduates and 2% of 1973 graduates were unemployed (and seeking full-time employment) at the time of this survey. Table 12 shows that: 1) these percentages varied considerably by field of study, and 2) in most fields unemployment was less for the alumni who had been out of college longer. Small numbers of respondents in some fields of study in Table 12 may have a misleading effect. For example, the 10% unemployment figure for Resource Science is based on only seven persons being unemployed.

Table 12

GRADUATES UNEMPLOYED AND LOOKING FOR FULL-TIME WORK
BY FIELD OF STUDY AND YEAR OF GRADUATION

(In percent of field of study for each year)

FIELD OF STUDY (n_{1976}, n_{1973})	PERCENT OF GRADUATES 1976	1973	FIELD OF STUDY (n_{1976}, n_{1973})	PERCENT OF GRADUATES 1976	1973
Animal Science (85,59)	6	7	Humanities (135,172)	7	3
Applied Economics (34,18)	3	0	Physical Science (47,47)	2	0
Biological Science (303,226)	5	1	Plant Science (59,29)	3	7
Engineering (111,100)	2	1	Resource Science (72,47)	10	4
Food Science (134,77)	6	0	Social Science (353,396)	4	2

Although in some fields of study there were no graduates looking for full-time work, it is probably not reasonable to expect zero unemployment for graduates as a whole. Because of changing demands for skills in the employment market, changing personal circumstances of job applicants, and discrepancies between location of jobs and location of job seekers, we assume that there will always be some graduates seeking employment.

Reactions to College

In addition to reporting on their career and educational experiences, graduates were asked to comment on the overall value of their college education, and what they would do differently if they had the opportunity to relive their undergraduate years. Comments and numeric ratings on the college education/experience indicated an overall high satisfaction with the undergraduate experience at Davis. Ninety-three percent rated the quality of their life as being improved to some degree by their undergraduate experience: 53% said it was greatly improved, 31% moderately improved, and 14% slightly improved. Five percent said college had not affected them, and 2% said that there had been a negative effect.

The comments which accompanied these ratings fell into two general areas: personal and career. Approximately half of the graduates saw the main effects of their college education/experience in personal terms, and a third responded in career terms. The most frequently mentioned personal effects of college studies were: 1) a broadening of interests and increased open-mindedness towards new people and new ideas (n=513); 2) greater maturity--improved independence, self-confidence, and self-understanding (n=488); 3) enjoyment--good memories and good friends (n=132); 4) intellectual development--the ability to think critically, enjoy the learning process, and question and evaluate information (n=101).

Some examples of graduates' personal reactions to their UCD experience were:

"It is a good feeling to know that I am capable of working as hard as I did, and achieving what I did."

"Basically my college experiences broadened my outlook on life and on the world--the classic function of a liberal education. And it did this I think because that was what I was consciously seeking--not a preparation for a job per se."

"College showed me the road to confidence, self-improvement, and the library."

"My experiences at UCD were excellent--broadening, challenging. I established my own values and gained a love of learning, usually more because of people and extra-curricular activities than the classes themselves."

The most frequently mentioned career effect was that college had provided an avenue to a better, more interesting job and faster advancement. Approximately half of the career comments were in this vein, and an additional 17% thought of UCD as providing the prerequisite to advanced degrees which would in turn lead to a good career. For example:

"I have a good-paying job doing what I always dreamed of--with lots of responsibility." Geology, 1976.

"My present job required a college degree, but not a particular major." Zoology, 1976.

"The status associated with a University education was saleable on the job market." Psychology, 1973.

Negative comments on the University experience/education usually centered around disappointment with career outcome. Seventeen percent of career comments were negative in character, and almost all concerned an inability to find work in the field of choice. Individuals who had criticism of University studies as preparation for a career did not necessarily feel, however, that their studies had been a waste of time. Although 173 of the 2,518 respondents offered negative career comments, only 55 gave their UCD experience an overall negative rating. Many of the negative career comments were imbedded in an overall positive reaction to the University experience. For example, this comment was from a 1973 Soil and Water Science major who was working as a soils tester for a private construction firm, a position he described as boring:

"I think my experience at Davis was worthwhile in nearly every respect... Perhaps the knowledge I treasure most is the ability to think rationally and independently...I will never regret taking the opportunity to learn. (But) I expected to have a better opportunity to get a professional job: this was not the case."

Another comment was from a 1973 Textile Design (independent) major, who was working as a manager of a retail fabric department, a job she described as dealing more with numbers than with textile design or people:

"I think my life is much improved as far as my non-working hours. I have a lot of interests and energy in pursuing them, including taking a class at SFSU on my day off. On the other hand, I think that my job dissatisfaction is in part brought on by higher expectations of the jobs available to college graduates."

These comments came from people who gave their overall college experience a high rating. The message here may be that even when career outcome does not meet expectations, considerations of personal, social, and intellectual growth have great importance for most respondents.

The development of job-related skills is a process which continues, or in some cases only begins, after graduation from college. However, a wide variety of graduates reported three areas of competence whose necessity they had either underestimated or not anticipated. These skills were:

1. Written or spoken communication--e.g., report writing, or (less frequently) the presentation of ideas to groups in speeches or discussions. Even for engineers and physical scientists, this was the most frequently mentioned skill in need of improvement.
2. Business skills--e.g., office management, accounting, business law, financial management. This kind of knowledge was needed for both career and personal reasons.
3. Marketable skills--a number of graduates felt they should have supplemented their education with technical training or internships in order to have more skills of value on the job market.

A wider view of what graduates now see as important was sought by asking the areas of awareness they would try to develop if they could plan their undergraduate years over again. The most frequent and heartfelt comments were those regretting a lack of knowledge of what lay ahead in the working world. For example:

There was a lack of knowledge of what careers were available.

"I had little knowledge of the availability and types of jobs that were related to my major... Trips for us to see jobs in our field of study should have been mandatory..."

"I was totally unaware of areas of employment related to my major--until after I graduated and spent one year researching this problem."

These comments were not by any means limited to graduates who found themselves unemployed or in jobs unrelated to their college major. They were also common among people in jobs (apparently) related to their college studies who were searching for careers they considered more fulfilling. Some graduates blamed their own short-sightedness in getting caught up in coursework and not researching the career alternatives and job market. Others blamed the University, citing what they considered an insular environment and a lack of instruction in career matters.

The importance of work experience was stressed.

Work experience was seen both as a means of learning about the working world and as an asset in the job market. Typical comments were:

"Today my B.A. is not enough. I need experience to get a job."

"I wish I had paid more attention to internships in my field. Getting out of college was a SHOCK. I just didn't know what was out there."

There was interest in personal development.

A lesser number of graduates spoke to issues of personal growth. These individuals wished they had spent more time developing their personal philosophy or religion, or in some other ways growing as human beings.

Awareness and effectiveness in dealing with others was important.

Both at work and in their personal lives, graduates were interested in improving their abilities to communicate with other people, and in how to develop leadership, diplomacy, and persuasiveness.

Discussion

This report has provided a review of the jobs and educational experiences of graduates one and four years out of college. The first few years after graduation have represented a time of adjustment for many alumni. Some with technical backgrounds or areas of knowledge in high demand by employers have quickly found a comfortable nitch in the working world. Others with generalist educations or uncertain career goals were more likely to be in a prolonged period of transition. Graduates of fields which are neither pre-professional nor technical in nature have been faced with the task of defining functional areas of competence with no obvious connection to college coursework and of selling these skills to employers. Even for the most employable graduates, many initial jobs were either exploratory or stop-gap in nature. This survey has caught many alumni in this period of transition, and their responses should be viewed with this in mind. The information presented here does not necessarily reflect permanent occupational choices or long-run employment trends.

One of the expectations that many people have of a college degree is that it should result in a good job. The definition of what constitutes a good (i.e., satisfying) job has been heavily researched in the literature on the work histories of college graduates: prestige, income, social or instrinsic worth of the work, success in personal relationships on the job, and relation to career objectives all play a part. The most important values in determining job satisfaction expressed in this survey were the opportunity to do interesting, creative work and to increase in knowledge and competence in the current field of interest. Thus the definition of a good job was highly concerned with values of self-expression, and less concerned with extrinsic rewards such as financial security or social status of occupation.

For college graduates as a whole, research indicates that job satisfaction increases with length of time in the work force. Some factors suggested to account for this are: 1) that workers gradually adjust to the everyday reality of the working world, and 2) that any disparities between the first job and long-run career goals tend to dissipate with new responsibilities, job changes, or realignment of goals. The movement from casual positions to career positions has played an important part in increased job satisfaction for the graduates in this study. In many cases this movement was facilitated by the credentialling effect of graduate degrees, some of which were entry requirements to desired jobs in the graduates' field of interest. There were also many cases of rapid advancement to managerial positions in private

firms after an initial job with the firm at a non-professional level. Both of these factors were at work in producing the substantial increases in income and job satisfaction that typified the early careers of these recent UCD graduates.

What constituted the current field of interest for UCD alumni was not absolutely tied to the choice of undergraduate major, although there was considerable correspondence. There were some cases of jobs outside graduates' field of study which were highly satisfying, and other cases of jobs which were highly related to college studies which graduates did not like. For example, many of the workers in the building trades gave their jobs high satisfaction ratings, and commented that there was great challenge involved in their work. The same was true of many small, independent farmers. Stereotypically, these jobs have not been considered satisfying or even appropriate for people with a college education. However, there were few job categories whose desireability could be completely prejudged in this manner. This fact should be considered when reviewing jobs and salaries in this survey. Income and professional status are important to graduates, but they are not everything, and they are more important to some individuals than to others.

Large differences in job satisfaction, income, and unemployment emerged among the ten undergraduate fields of study. Success in finding initial full-time employment in the field of choice also varied greatly, ranging from 40% in Humanities to 88% in Engineering. Undoubtedly these effects are multiply determined: for instance, income is influenced not only by field of study but by sex and the relative levels of graduate study achieved. The detailed parcelling out of these factors must be left to far larger and more sophisticated studies than the present one. But it is prudent to remember that the existence of complicated interactions makes the assumption of cause and effect relationships very hazardous.

With 60% of graduates taking graduate coursework within four years of commencement, it is apparent that taking some amount of graduate education is the norm for UCD alumni. Although the tendency to take graduate coursework was true for both sexes, there was a pronounced sex differential in the incidence and type of graduate degree attempted. Women were less likely to attain graduate degrees, and more likely to undertake the shorter and less prestigious degree programs. However, the advantage in the job market of alumni of both sexes with graduate degrees is apparent in the higher salaries and more satisfactory jobs they have achieved. This trend will undoubtedly continue as the MD's, DVM's, and Ph.D's now in progress are completed.

The earnings of male graduates in this survey were, on the average, higher than those of females, and the salary gap between the sexes seemed to grow over time. Men earned approximately $3,000 more than women on their first jobs, and their average salary increase between initial and current jobs exceeded that of females by over $1,000. For the purposes of this summary report, the salary differential is simply noted as a statistical fact, along with suggestions for further discussion or study. Two factors contributing to lower female earnings have already been noted: 1) the concentration of women in lower paying occupations, and 2) the tendency for men to undertake more ambitious and financially rewarding graduate programs. Another factor is that women outnumbered men in the undergraduate fields of study whose graduates, regardless of sex, earned lower than average incomes.

Regardless of their field of study, sex, or level of education, graduates reported that if they could plan their undergraduate education over again, they would acquire more saleable,

practical job skills. Elementary school teachers reported needing to know more activities for youngsters, counselors more counseling and diagnostic skills, artists and designers more commercial art or photography, plant scientists more field work skills, and biological scientists more lab skills. The overall message seemed to be that there is a need for a technical adjunct to the bachelor's degree. This was described as either a program of job-oriented courses within the University, supplementary study at a technical institution, or work experience acquired through increased emphasis on internships. The opportunity for such task-oriented training presently exists to different degrees in different departments in the University, and is supplemented by Work-Learn internships. Some alumni have said that the opportunity to gain technical skills did not exist for them (e.g., because their major was too theoretical), and some have said that although opportunities existed, they did not realize their importance and so did not take advantage of them.

The most important knowledge alumni said they lacked at graduation was an awareness of career alternatives and job availability. This result was not unexpected in an employment survey of recent graduates: many occupations are not very visible until entry into the working world, and any survey of recent graduates will reflect discrepancies between ideals and reality. However, the need for more knowledge of the working world was clear and pronounced. This was true even among graduates of technical fields, some of whom said they had not anticipated some of the constraints they discovered in their initial, entry-level jobs.

Looking back, graduates thought that the most salient aspect of college was its broadening and maturing effect. Many offered comments on what they thought had produced this effect. The diversity of people and variety of experiences was frequently mentioned, i.e., the experience of living with roommates of differing backgrounds, or meeting teachers with new and influential ideas. The diversity of experience and the opportunity to live independently for the first time in this atmosphere of diversity were just as salient, if not more so, to most graduates as their academic work. The career preparation that took place in college was important, but the broadening and growing experience of the undergraduate years had an independent and lasting value.

FOOTNOTES

[1]The selection of years was partially affected by new federal requirements on career advising. The graduates of 1976 were chosen to meet the federal requirement that schools participating in the Guaranteed Student Loan Program provide recent salary and placement information to prospective students. One comparison year, 1973, was chosen in order to give some view of what career progress could be expected within a few years of college.

[2]The questionnaire was adapted from one used by the University of California-Irvine Career Planning and Placement Center in a similar survey.

[3]This area is defined as including zip codes 940-949 and 956-958. The western and eastern boundaries are San Francisco and South Lake Tahoe.

Appendix A

THE QUESTIONNAIRE

SURVEY OF GRADUATES

UNIVERSITY OF CALIFORNIA, DAVIS

For each question, place an X in the box that corresponds to the most appropriate alternative or write your response in the space provided. Please disregard the small numbers that appear throughout the questionnaire; we will use them to code your responses.

A. EDUCATION

1/

1. What was your undergraduate major at UCD? _____ 6-8

2. In what month and year did you receive your bachelor's degree? _____ 9-12
   month year

3. Have you taken any graduate level courses since receiving your baccalaureate? [ ]yes[ ]no 13

4. Are you currently enrolled in an educational program for which you will be awarded a degree, license, or credential? [ ] yes [ ] no. If "no", skip to question 5. 14

   a. What degree, license, or credential are you seeking?

License, degree, or credential	Year Expected	Institution	State	Major Field
_____ 15-16	_____ 17-18	_____ 19-21	_____ 22-23	_____ 24-26

   b. Are you a [ ] full-time or [ ] part-time student? 27

5. List any graduate or professional degrees which you hold.

Degree	Year Awarded	Institution	State	Major Field
_____ 28-29	_____ 30-31	_____ 32-34	_____ 35-36	_____ 37-39
_____ 40-41	_____ 42-43	_____ 44-46	_____ 47-48	_____ 49-51

6. List any state-issued licenses or credentials which you hold. (for example: engineer, lawyer, nurse, physician, teacher)

License or credential	Year issued	State
_____ 52-53	_____ 54-55	_____ 56-57
_____ 58-59	_____ 60-61	_____ 62-63

7. Do you plan any additional degrees or credentials in addition to those you have mentioned above? [ ] yes [ ] no [ ] maybe 64

B. CURRENT EMPLOYMENT

Please fill out this section even if your current employment is only a temporary job or part of a graduate training program. If you are not currently employed, please check here ☐ and skip to section C. 65

1. What is your current occupation? (Use descriptive title; for example: computer programmer, law clerk, personnel analyst trainee, real estate agent). 66-68

   _____

2. Are you presently employed [ ] full-time or [ ] part-time? 69

3. In what type of organization are you employed? [ ] public or governmental [ ] private 70

4. What is the name of the organization for which you work (e.g., Sutter Hospital, Allstate Insurance Co., IBM), and when did you begin working there?

name of organization _____ employment date: ___ mo. ___ yr. 71-74

5. What is the nature of the organization's activity? (e.g., architectural consulting, electronics manufacturing, education.) If you are self-employed, describe the nature of your work.

_____ 75-77

6. What is the zip code of your employment location? (This is the most convenient way to identify your location. If you don't know your zip code, please indicate the city and state in which you work.) 2/

_____ 8-10

7. Please describe how you found this position. (Check only one alternative.) 11

1[ ] UCD placement office
2[ ] UCD faculty
3[ ] private employment agency
4[ ] government employment services (include Civil Service and state personnel boards)
5[ ] want ads in a newspaper, magazine or journal
6[ ] word-of-mouth from friends, relatives
7[ ] direct personal application
8[ ] other: _____

8. What is your annual salary (to the nearest $100)? _____ 12-14

9. Is this position in the career field of your choice? [ ] yes [ ] no 15

10. Check any forms of work experience you had during college and rate how much that experience contributed to your current job performance by circling the appropriate rating.

	CONTRIBUTION TO JOB PERFORMANCE low → high					
[ ] internships (e.g., Work-Learn)	1	2	3	4	5	16
[ ] Work-Study	1	2	3	4	5	17
[ ] summer or part-time job	1	2	3	4	5	18
[ ] other (specify) _____	1	2	3	4	5	19

11. To what extent are the skills and knowledge acquired through your undergraduate education necessary to your present occupation? (Circle the appropriate number.)

not necessary 1 2 3 4 5 very necessary 20

12. How satisfied are you with your present occupation?

not satisfied 1 2 3 4 5 very satisfied 21

Explain why you are, or are not, satisfied.

22-23

13. What skills or areas of knowledge that you studied or acquired as an undergraduate at UCD are most valuable in your work? 24-25

14. **If your current job is your first since graduation, OR if you have held no (other) full-time jobs since graduation, please check here ☐ and skip to section D.** 26

C. INITIAL FULL-TIME EMPLOYMENT AFTER GRADUATION

If you have not held a full-time position since graduating from UCD, please check here ☐ and skip to section D. 26

1. What was the first full-time position you held after receiving your bachelor's degree from UC Davis? (Use descriptive title.)

_____ 27-29

2. In what type of organization were you employed? [ ] public or governmental [ ] private 30

3. What was the name of the organization for which you worked (e.g., University of California, Sutter Hospital, California Savings and Loan), and when did you begin working there?

name of organization _____ employment date: ___ mo. ___ yr. 31-34

4. What was the nature of the organization's activity? (e.g., architectural consulting, electronics manufacturing, education.) If you were self-employed, describe the nature of your work.

_____ 35-37

5. What was the zip code of your employment location? (If you don't know your zip code, please indicate the city and state in which you worked.)

_____ 38-42

6. Please describe how you found this position. (Check only one alternative.) 43

1[ ] UCD placement office
2[ ] UCD faculty
3[ ] private employment agency
4[ ] government employment services (include Civil Service and state personnel boards)
5[ ] want ads in a newspaper, magazine or journal
6[ ] word-of-mouth from friends, relatives
7[ ] direct personal application
8[ ] other: _____

7. What was your starting annual salary in this position (to the nearest $100)? ___,___ 44-46

8. Was this position in the career field of your choice at the time you accepted it?

[ ] yes [ ] no [ ] you had not chosen a career field 47

9. Check any forms of work experience you had during college and rate how much that experience contributed to your job performance by circling the appropriate rating.

	CONTRIBUTION TO JOB PERFORMANCE low → high					
[ ] internships (e.g., Work-Learn)	1	2	3	4	5	48
[ ] Work-Study	1	2	3	4	5	49
[ ] summer or part-time job	1	2	3	4	5	50
[ ] other (specify) _____	1	2	3	4	5	51

10. To what extent were the skills and knowledge acquired through your undergraduate education necessary in this position?

not necessary 1 2 3 4 5 very necessary 52

11. How satisfied were you with the job?

not satisfied 1 2 3 4 5 very satisfied 53

Explain why you were or were not satisfied.

54-55

12. What skills or areas of knowledge that you studied or acquired as an undergraduate at UCD were most valuable in your work? 56-57

D. BACKGROUND

1. Please check and then explain how the quality of your life has been affected by your undergraduate experience/education.

1[ ] much improved 2[ ] moderately improved 3[ ] slightly improved 4[ ] no effect 58
5[ ] slightly worse 6[ ] moderately worse 7[ ] much worse

Please explain:

59-60

2. What skills or areas of knowledge or awareness would you acquire or develop more thoroughly if you could plan your overall undergraduate experience over again?

skills: 61-62

areas of knowledge: 63-64

areas of awareness: 65-66

3. From the list below, indicate the two most prevalent activities in your life since receiving your baccalaureate. Put a "1" beside your major activity (in terms of time spent), and a "2" beside the second most prevalent activity. 67-68

[ ] military service 1
[ ] paid employment 2
[ ] attending a college 3
[ ] managing a home/rearing children 4
[ ] volunteer work 5
[ ] unemployed and seeking employment 6
[ ] other (please describe) _____ 7

4. If you are presently working or studying full-time, you may skip to question 5.

Please check the alternative (A or B) which best explains your desired employment status, and continue beneath that alternative, checking whichever responses are applicable.

[ ] A. You DO NOT WANT a full-time job because you are involved in:
1[ ] travel or vacation
2[ ] home or child care
3[ ] part-time studies 69-70
4[ ] part-time employment
5[ ] volunteer activities
6[ ] other (please explain)
_____

[ ] B. You DO WANT a full-time job but you:
1[ ] were laid off your last job
2[ ] cannot find a full-time job
3[ ] have health problems 71-72
4[ ] moved to a new location and haven't found a job yet
5[ ] other (please explain)
_____

5. SEX [ ] female [ ] male 73

6. MARITAL STATUS [ ] single [ ] married 74

7. NUMBER OF CHILDREN _____ 75 CHILDREN'S AGES _____ 76

8. Please check the ethnic category to which you belong. 77

[ ] Asian-American 1
[ ] Black/Afro-American 2
[ ] Chicano/Mexican-American 3
[ ] Foreign 4
5 [ ] Native American/American Indian
6 [ ] White American/Caucasian
7 [ ] Other (please specify) _____
8 [ ] decline to state

9. What was your overall undergraduate GPA at UCD? _____ 78-80

Appendix B

METHODOLOGY

Response rates. In April 1977, questionnaires were sent to all UCD bachelor's degree recipients of calendar years 1973 and 1976. A post card reminder was mailed to all graduates three weeks after the original mailing. By the first of July, the cut-off date for responses, 2518 replies were received, 1173 from 1973 graduates and 1345 from 1976 graduates. This comprized a 48% return rate for both years.

For purposes of analysis, responses were divided into ten categories of related majors, referred to as fields of study. The number of respondents and the response rates in each field of study are shown in Table B1.

Table B1

NUMBER OF RESPONDENTS AND RESPONSE RATES
BY FIELD OF STUDY

FIELD OF STUDY	*n*	Percent of Respondents	Response Rate (in percent) [1]	
			1973	1976
Social Science	749	30	48	48
Biological Science	529	21	37	43
Humanities	307	12	43	40
Engineering	211	8	54	47
Food Sci, Nutri & Cons Sci	211	8	50	61
Animal Science	144	6	57	59
Resource Science	119	5	46	57
Physical Science	94	4	50	46
Plant Science	88	3	64	48
Applied Economics	52	2	55	39
Miscellaneous	14	1	--	--

Response bias. Characteristics of respondents were checked against those of UCD graduates during 1973 and 1976 to discover any sources of non-response bias. Data on academic major, sex and GPA[2] were available for both years. Table B2 shows that females and graduates with higher grade points are slightly overrepresented in the survey returns. The differences between survey and population characteristics were small but statistically significant.

Table B2

COMPARISON OF SURVEY CHARACTERISTICS WITH
THOSE OF THE GRADUATES OF 1973 AND 1976

CHARACTERISTIC		SURVEY		POPULATION	
		1973	1976	1973	1976
Sex:	Female	50%	50%	47%	46%
	Male	50%	50%	53%	54%
Mean GPA		3.13	3.14	2.97	2.98

To see if there was a response bias due to employment status, correlations were run between response rates and unemployment[3] for both years of graduates in the ten fields of study. Correlation coefficients showed opposite relationships between unemployment and response rates for the two years (r(1973)=-.20 and r(1976)= .46). That is, unemployed 1973 graduates were somewhat less likely to respond than graduates of that year who were employed, and for 1976 graduates, the opposite was true. However, tests for a linear relationship between unemployment and response rates did not reach statistical significance for either year. Thus we have no evidence that the sample is biased by high or low response rates of unemployed persons.

Another possibility for response bias is that graduates who are still in school may have been more or less likely to return the questionnaire. Analyses showed that for each graduating year the fields of study with higher proportions of full-time students had somewhat lower reponse rates on the average, but these correlations were not statistically significant. Thus there is no evidence that the sample is biased by an over-or under-representation of graduates who are still in school.

As a check on the geographical location of respondents, post marks of returned questionnaires were checked against zip codes on the mailing list used to send out the questionnaire. Seven percent of outgoing questionnaires had out-of-state addresses compared to 11% of survey returns. Thus, out-of-state alumni are represented as well as, in fact better than, in-state alumni. Within California, 68% of the mailout was to the San Francisco-Sacramento[4] area, and 66% of the returned questionnaires were from that area.

Although it is reassuring that: 1) the characteristics of respondents are close to that of the population of 1973 and 1976 graduates, and 2) there is no discernable bias due to unemployment or student status, the return rate (48%) was not high enough to insure the representativeness of the sample. Especially for the fields of study with the lower response rates, caution should be used in generalizing findings to the whole graduating class.

[1]See Appendix C for the number of graduates in each field of study. Due to the lack of data broken out by major for graduates of September and December 1976, response rates for 1976 refer only to the March and June 1976 respondent/graduate ratio.

[2]The available GPA statistic was based on seniors, not graduates. The actual GPA of graduates may be higher than the estimates based on seniors, since some seniors with low GPA's may not have graduated on schedule.

[3]Individuals were defined as unemployed if they were unemployed and seeking full-time work.

[4]The San Francisco-Sacramento area is defined as including zip codes 940-949 and 956-958. The western and eastern boundaries of that area are San Francisco and South Lake Tahoe.

Appendix C

NUMBER OF RESPONDENTS AND ESTIMATED NUMBER OF GRADUATES BY UNDERGRADUATE MAJOR

MAJOR	GRADUATES[1]	RESPONDENTS
ANIMAL SCIENCE		
- Agri Sci & Mgmt	24	14
- Animal Science	128	85
- Avian Science	12	7
- Wildlife/Fish Bio	56	38
APPLIED ECONOMICS		
- Agri Bus Mgmt	5	7
- Ag Economics	10	17
- Ag Econ & Bus Mgmt	72	26
- Dev Res & Con Econ	9	2
BIOLOGICAL SCIENCE		
- Bacteriology	44	23
- Biochemistry	151	78
- Biological Sci	308	147
- Botany	39	19
- Genetics	47	29
- Physical Education	71	41
- Physiology	126	52
- Vet Medicine	63	12
- Zoology	319	128
ENGINEERING		
- Engr (unspecified)	n/a	13
- Aeronautic Engr	4	3
- Ag Engineering	20	9
- Chem Engineering	50	25
- Civil Engineering	114	57
- Civ/Mats Sci & Engr	4	1
- Electrical Engr	115	56
- Elec/Mats Sci & Engr	5	2
- Materials Science	5	2
- Mechanical Engr	100	39
- Mech/Mats Sci & Engr	8	4
FOOD, NUTRI & CONS SCI		
- Community Nutrition	1	1
- Consumer Food Sci	19	12
- Dietetics	74	45
- Diet & Nutrition	1	5
- Fermentation Sci	33	20
- Food Biochemistry	0	1
- Food Science	57	39
- Food Sci Mgmt	1	3
- Home Economics	72	33
- Nutrition	12	12
- Nutrition Science	31	18
- Textiles	44	22
HUMANITIES		
- Art	53	25
- Art Studio	77	32
- Art History	26	12
- Comp Literature	5	3
- Design	83	44
- Dramatic Art	22	9
- English	175	72
- English-Writing	4	4
- French	29	15
- German	22	10
- Greek	0	1
- Humanities	6	3
- Latin	4	2
- Liberal Arts	2	1
- Linguistics	10	7
- Mex/Chicano Studies	5	2
- Music	17	8
- Philosophy	12	6
- Religious Studies	2	2
- Rhetoric	29	14
- Russian	9	4
- Russian Lit & Hist	1	1
- Spanish	69	29
PHYSICAL SCIENCE		
- Chemistry	41	16
- Geology	24	18
- Mathematics	75	40
- Physical Science	1	1
- Physics	27	13
- Textiles Science	8	6
PLANT SCIENCE		
- Agrarian Studies	2	2
- Crop Protection	2	1
- Entomology	43	24
- Int'l Ag Dev	9	3
- Plant Protection	0	1
- Plant Science	87	53
- Range/Wildlands Sci	4	4
RESOURCE SCIENCE		
- Atmos Science	15	6
- Envir Toxicology	4	4
- Envir Plan & Mgmt	88	56
- Park Rec & Admin	0	1
- Renew Nat Resources	53	30
- Soil & Water Sci	31	21
- Soil Science	0	1
SOCIAL SCIENCE		
- American Hist & Lit	1	2
- American Studies	17	7
- Anthropology	64	30
- Appl Behavioral Sci	74	49
- Child Development	82	98
- Economics	178	99
- Geography	32	18
- History	210	93
- Human Development	34	26
- Int'l Relations	53	30
- Mass Communications	10	6
- Political Science	139	84
- Poli Sci/Pub Serv	31	10
- Psychology	303	139
- Sociology	91	58
MISCELLANEOUS	n/a	15

[1]The number of graduates in each major for calendar years 1973 and 1976 is based on statistical summaries of degrees awarded for March, June, September and December 1973 and March and June 1976. Breakouts by academic major are not yet available for baccalaureate degree recipients of September and December 1976. The estimates of graduates in each major are, therefore, less than or equal to the actual number of graduates.

Appendix D

RESPONDENT CHARACTERISTICS

(In percent of respondents, *n*=2518)

		%
SEX:	female	49.8%
	male	50.2%
NO. OF CHILDREN:	none	92.0%
	one	5.1%
	two or more	2.9%
MARITAL STATUS:	married	34.1%
	single	65.9%

ETHNICITY:	%	n
White Amer/Caucasian	82.2	2,061
Asian-American	7.3	17
Chicano/Mex-Amer	1.4	34
Foreign	1.0	24
Black/Afro-Amer	.7	17
Native Amer/Amer Indian	.6	14
Other	2.4	61
Decline to state	4.6	125

Appendix E

DEGREES AND CREDENTIALS IN PROGRESS AND ATTAINED
- 1973 AND 1976 GRADUATES[1] -

(In percent of graduates of each year)

DEGREES, LICENSES, AND CREDENTIALS	1973 GRADUATES (*n*=1173)		1976 GRADUATES (*n*=1345)	
	In progress	Attained	In progress	Attained
Degrees:				
Undergraduate	*[2]	*	*	*
Academic masters	8	13	11	*
Professional masters	3	3	3	*
Law (JD)	3	2	3	*
Nursing (RN)	*	*	1	*
Dentistry (DDS)	1	*	1	-
Medicine (MD)	3	*	3	-
Vet. Medicine (DVM)	*	1	2	-
Academic doctorate	5	-	2	-
Professional doctorate	*	-	*	-
Teaching Credentials	2	16	8	1
Misc. Licenses:				
Engineering (EIT)	*	4	*	2
Medical, dental, animal, technician	*	3	2	*
Agricultural licenses	*	*	-	1
Finance, insurance, real estate	*	*	*	*
Registered Dietician (RD)	*	1	2	1
Other	2	2	2	2

[1]Graduates with more than one degree or credential are represented more than once in this table.

[2]The asterisk indicates an amount that is less than one-half of a percent.

Appendix F

THE INCIDENCE OF GRADUATE/PROFESSIONAL AND POST-BACCALAUREATE TECHNICAL STUDY AMONG 1973 GRADUATES BY UNDERGRADUATE FIELD OF STUDY

(In percent of field of study)

EDUCATIONAL STATUS	FIELD OF STUDY										
	An Sci *n=59*	Ap Econ *n=18*	Bio Sci *n=226*	Engr *n=100*	Food Sci *n=77*	Human-ities *n=172*	Phys Sci *n=47*	Plant Sci *n=29*	Res Sci *n=46*	Soc Sci *n=396*	TOTAL[1] *n=1173*
No post-baccalaur-eate studies	37	56	22	35	51	42	25	48	46	37	36
Undertook a grad/ prof degree[2]	54	33	69	37	36	52	68	38	41	55	54
Undertook technical license[3]	9	11	10	28	13	6	6	14	13	8	10

[1]A small miscellaneous field of study category (*n*=3) was included in the total.

[2]Includes some individuals who also undertook technical licenses; includes teaching credentials.

[3]Excludes individuals who also undertook a grad/prof degree or teaching credential.

Appendix G

STARTING SALARIES OF GRADUATES WITH BACHELOR'S DEGREES
IN THE MOST FREQUENTLY REPORTED PROFESSIONAL, TECHNICAL, OR MANAGERIAL OCCUPATION
BY UNDERGRADUATE MAJOR

UNDERGRADUATE MAJOR[1]	MOST FREQUENT PROFESSIONAL, TECHNICAL, OR MANAGERIAL OCCUPATION[2]	MEAN ANNUAL STARTING SALARY[3]	*n*
Agri Bus Mgmt	Financial administrator/analyst	$10,600	4
Agricultural Economics	Agricultural administrator/analyst	10,567	3
Ag Econ & Bus Mgmt	Financial administrator/analyst	13,267	6
Animal Science	Animal scientist/technician	8,530	10
Applied Behv Science	Social welfare admin/analyst/counsel	12,100	7
Bacteriology	Medical/dental technologist	7,837	8
Biochemistry	Biological scientist/technician	7,258	12
Biological Science	Biological scientist/technician	9,811	18
Botany	Plant scientist/technician	7,917	11
Chemistry	Chemist	11,375	8
Consumer Food Science	Dietician	12,562	8
Design	Artist/designer	8,969	10
Dietetics	Dietetic intern	7,291	23
Economics	Financial administrator/analyst	10,614	14
Engineering	Engineer	15,043	142
Entomology	Plant scientist/technician	8,680	5
Envirnmt Plann & Mgmt	Resource planner/technician	11,050	10
Fermentation Science	Food scientist/technician	11,690	10
Food Science	Food scientist/technician	12,658	19
Genetics	Biological scientist/technician	9,733	3
Geology	Physical scientist/technician	9,950	6
History	Misc administrator/analyst	8,680	15
Human Development	Social welfare admin/analyst/counsel	7,033	3
International Relations	Misc administrator/analyst	7,675	4
Mathematics	Computer programmer	12,314	7
Nutrition	Food scientist/technician	8,433	3
Physical Education	Coach	9,125	4
Physics	Applied physicist	14,650	4
Physiology	Medical/dental technician	10,033	9
Plant Science	Plant scientist/technician	7,000	4
Political Science	Misc administrator/analyst	10,750	14
Psychology	Social welfare admin/analyst/counsel	8,650	14
Renewable Nat Resources	Resource planner/technician	9,300	6
Sociology	Social welfare admin/analyst/counsel	7,875	12
Resource Science	Resource planner/technician	10,585	13
Textiles	Retail trade administrator/manager	7,487	8
Wildlife Fish Bio	Animal scientist/technician	9,129	7
Zoology	Biological scientist/technician	8,533	12

[1]Only majors with $n > 3$ in <u>one</u> professional, technical or managerial occupational grouping are included. Majors whose graduates were employed in a wide variety of occupations, and majors with small n, are unlikely to be listed.

[2]These occupations are <u>not necessarily typical</u> of occupations in first full-time jobs, they are simply the single most frequently reported occupations.

[3]Graduates of 1973 and 1976 are combined, so that the mean salaries represent those offered in the period between 1973 and 1976.

Appendix H

MEAN STARTING SALARIES IN FIRST FULL-TIME JOB
BY MAJOR[1] AND LEVEL OF EDUCATION[2]

MAJOR	LEVEL OF EDUCATION				Total	
	Baccalaureate		Advanced Degree			
	Mean	n	Mean[3]	n	Mean	n
Agricultural Economics	$10,455	9		2	$10,936	11
Ag. Econ. & Bus. Mgmt.	11,557	21		1	11,495	22
Agri. Sci. & Mgmt.	8,641	12		1	9,292	13
Animal Science	8,866	47		2	8,908	49
Anthropology	8,085	21		1	8,027	22
Applied Behavioral Science	8,169	32		2	8,224	34
Art	5,337	8	$ 9,900	5	7,092	13
Art Studio	6,586	15		3	7,457	18
Bacteriology	8,118	16		1	8,365	17
Biochemistry	8,538	31		3	9,550	34
Biological Sciences	9,144	69	12,510	13	9,678	82
Botany	7,969	13		1	8,364	14
Chemistry	11,888	9		2	12,245	11
Child Development	6,800	46	10,285	21	7,893	67
Consumer Food Science	11,650	10		0	11,650	10
Design	8,364	25		1	8,392	26
Dietetics	6,012	24	13,200	9	7,973	33
Economics	10,512	66	16,385	7	11,075	73
Engineering	14,925	8		2	15,220	10
Chemical Engineering	16,150	18		1	16,368	19
Civil Engineering	14,888	44	14,585	7	14,847	51
Electrical Engineering	15,300	43		1	15,293	44
Mechanical Engineering	14,241	29		3	14,925	32
English	6,722	36	10,808	12	7,744	48
Entomology	9,460	15		1	9,806	16
Envir. Plan. & Mgmt.	9,897	36		1	9,897	37
Fermentation Science	10,612	17		0	10,612	17
Food Science	12,350	26		2	11,996	28
Genetics	7,792	13		2	7,753	15
Geography	7,300	10		1	7,573	11
Geology	9,042	12		0	9,042	12
History	7,297	48	10,233	15	7,997	63
Home Economics	6,544	9	10,508	9	7,944	18
Human Development	7,200	10		2	7,900	12
International Relations	8,752	17		3	8,630	20
Mathematics	10,555	18	12,114	8	10,569	26
Physical Education	7,469	13	11,223	11	9,188	24
Physiology	9,611	26		1	9,552	27
Plant Science	7,900	33		1	7,950	34
Political Science	10,141	53	12,547	6	10,386	59
Psychology	7,867	84	12,088	11	8,357	95
Renewable Natural Resources	8,700	25		1	8,808	26
Sociology	7,688	43		4	7,866	47
Soil & Water Science	10,187	16		1	10,265	17
Spanish	5,630	10	11,344	11	8,624	21
Textiles	7,917	18		0	7,917	18
Wildlife Fish. & Bio.	10,161	21		3	10,500	24
Zoology	8,238	76	12,900	10	8,630	86

[1] Includes only majors with ten or more respondents who have had full-time jobs since graduation.

[2] Refers to level of education at starting date of first full-time job.

[3] Mean salaries of graduates with advanced degrees are omitted if $n < 5$.

Appendix I

MEAN ANNUAL STARTING SALARIES OF 1976 GRADUATES WITH BACHELOR'S DEGREES

--20 Occupational Groupings--

OCCUPATIONAL GROUPING	AVERAGE STARTING SALARY	NUMBER OF RESPONDENTS	EXAMPLES OF SPECIFIC FIELDS OF STUDY Undergraduate Field of Study--Average Starting Salary--(n)[1]
Animal scientist or technician	$ 8,658	12	An Sci $8,670 (10)
Biological scientist or tech	8,576	33	An Sci $9,650 (4); Bio Sci $8,500 (24); Food Sci $8,300 (4)
Computer specialist	9,513	8	Phys Sci & Math $11,900 (4)
Engineer	14,093	74	Engr $14,269 (70)
Food scientist or technician	11,296	28	Bio Sci $11,980 (5); Food Sci $11,268 (22)
Physical scientist or technician	10,553	17	Bio Sci $11,367 (6); Phys Sci & Math $10,286 (7)
Plant scientist or technician	8,600	15	Bio Sci $8,986 (7); Plant Sci $8,920 (5)
Resource technician or planner	9,667	18	Resource Sci $10,014 (14)
Agricultural manager	13,400	13	An Sci $12,750 (4); Applied Econ $10,567 (3); Resource Sci $11,333 (3)
Financial mgr, analyst or admin	10,216	32	Applied Econ $10,800 (9); Bio Sci $10,167 (3); Phys Sci & Math $13,600 (3) Soc Sci $8,700 (12)
Manufacturing manager	15,656	9	Bio Sci $13,860 (5)
Social services analyst or admin	7,932	19	Soc Sci $7,153 (17)
Retail trade manager or buyer	10,779	24	Food Sci $9,013 (8); Phys Sci & Math $12,733 (3); Soc Sci $11,200 (8)
Other administrator or manager	11,319	26	Food Sci $9,867 (3); Resource Sci $9,800 (3); Soc Sci $11,986 (14)
Artist or entertainer	7,088	8	Humanities $8,467 (6)
Teacher (non-credentialed)	5,694	31	Humanities $4,967 (6); Soc Sci $5,820 (15)
Health technician (animal or human)	6,921	73	An Sci $6,333 (3); Bio Sci $7,558 (38); Food Sci $5,426 (19); Soc Sci $6,950 (10)
Legal analyst or administrator	8,571	7	Soc Sci $8,333 (6)
Police or fire	10,570	10	Soc Sci $11,025 (4)
Writer, librarian or museum tech	8,118	11	Humanities $7,280 (5); Soc Sci $8,833 (3)

[1]Fields of study were omitted which had fewer than three respondents in a given occupational category.